

REMARKS

This application pertains to a novel pressure-sensitive adhesive article.

Claims 1-15 are pending, although claims 3 and 7 have been withdrawn as directed to a non-elected invention. The claims under examination are therefore claims 1, 2, 4-6 and 8-15.

Applicants respectfully request that, upon the allowance of claims drawn to elected subject matter, the non-elected claims be rejoined.

Claims 1, 2 and 8 stand rejected under 35 U.S.C. 102(b) as anticipated by or obvious over JP 10-025460 [machine translation].

The pressure-sensitive adhesive article of Applicants' claims is comprised of a support in sheet or strip form, at least a part of which is coated with a pressure-sensitive adhesive comprised of a polyacrylate block copolymer having both hard blocks [P(B)] and soft blocks [P(A)], wherein the ratio of the chain lengths of the polymer blocks [P(B)] to those of the polymer blocks [P(A)] is selected so that the polymer blocks P(B) are present in the form of a disperse phase in a continuous matrix of the polymer blocks P(A).

Due to the ratio of their chain lengths, the two blocks are immiscible.

Because of this, the weak blocks function as an inner softener for the hard blocks, and the properties of the adhesive can be adjusted in a very fine way.

An essential feature of Applicants' claims is that the polymer blocks [P(A)] and [P(B)] are immiscible. Further, the chain lengths are engineered in such a way as to cause the polymer blocks P(B) to be present in the form of a disperse phase in a continuous matrix of the polymer blocks P(A).

The adhesives used in Applicants' self-adhesive articles therefore generate an organizational structure in which the hard domains form small regions which are non-adhesive, and the soft domains give rise to very small adhesive regions (page 3, lines 13-29). This results in the relatively low bond strength and redetachability needed for sticky notes.

Applicants' adhesive coating therefore has areas which are non-adhesive and areas which are adhesive. This is different than a substrate which is partially coated with an adhesive and partially uncoated, and therefore has adhesive coated regions which are, of course, adhesive and regions which are not adhesive coated and therefore are not adhesive.

There is absolutely nothing in the abstract of JP 10-025460 that would teach or suggest that the blocks of the copolymer disclosed therein be tailored e.g. in terms of their chain lengths so as to make the blocks incompatible with each other so that the

polymer blocks P(B) form a disperse phase in a continuous matrix of the polymer blocks P(A).

The JP reference does not teach or suggest anything at all about the concept of a pressure sensitive adhesive comprised of a block copolymer having a succession of soft polymer blocks [P(A)] and hard polymer blocks [P(B)] wherein polymer blocks [P(A)] and [P(B)] are immiscible. Nothing in the JP reference would lead those skilled in the art to engineer the chain lengths of the polymer blocks to achieve a ratio of the chain lengths of the polymer blocks [P(A)] to those of the polymer blocks [P(B)] that would lead to the polymer blocks P(B) being present in the form of a disperse phase in a continuous matrix of the polymer blocks P(A). This involves much more than just the selection of the monomers.

Therefore even if the JP reference teaches to use blocks of n-butyl acrylate and blocks of methyl methacrylate, such a teaching would never lead to Applicants' polyacrylate block copolymers, because there is nothing in the JP reference that would lead those skilled in the art to engineer the relative chain lengths of the respective blocks to a ratio that would cause the blocks P(B) to be present in the form of a disperse phase in a continuous matrix of the polymer blocks P(A).

The Examiner argues that Applicants' polymer blocks are deemed to be inherent in the same chemistry anticipated by JP '460.

Applicants have previously pointed out that there is nothing in JP '460 that would

lead to the specific chain length ratio required by Applicants' claims, and the chemistry of the JP '460 reference is clearly not the same as Applicants' chemistry.

To this the Examiner replies that

"...since JP '460 teaches generally the same structure and composition for the same end use as the claimed invention, a workable ratio is deemed to be either anticipated, or an obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain the same required adhesive properties for the same end use as the claimed invention"

Applicants' invention concerns an adhesive for sticky pads which, after bonding to paper can be removed again without leaving any residue (page 2, lines 1-3). The pressure-sensitive adhesive article defined by Applicants' claims is a sheet of such a sticky pad. In Applicants' article, the pressure-sensitive adhesive used is engineered to enable the pressure-sensitive adhesive article to be removable from paper without leaving any residue and without tearing.

To accomplish this, Applicants generate an organizational structure in which the hard domains form small regions which are non-adhesive, and the soft domains give rise to very small adhesive regions (page 3, lines 13-29). This results in the relatively low bond strength and redetachability needed for sticky notes.

The structure of the JP '460 reference is different than Applicants'.

The composition of the JP '460 reference is different than Applicants'.

The ratio of the chain lengths of the polymer blocks could not possibly be a matter of routine optimization because to optimize something one must know what they are optimizing it for and nothing in the JP reference teaches or suggests Applicants' use, so there is nothing in this reference to optimize the ratios for.

As Applicants have already pointed out, the JP reference is concerned with obtaining a **strong** adhesive.

Applicants previously pointed out that the JP reference would, if anything, teach away from Applicants' novel adhesive coating. Paragraph [0010] of the reference plainly discloses that the object of the reference is to provide an acrylic binder that has excellent adhesiveness. This is exactly the opposite of the requirements for Applicants' adhesive, which must have a low bond strength in order to be useful for sticky notes. The presence of the domains in Applicants' adhesive coating which are non-adhesive is directly contrary to the teachings of the JP reference, which is directed towards stronger adhesives, not weaker adhesives.

Applicants have pointed out that the adhesives of the JP reference would not be useful for sticky pads, because they, or the sheets of paper from the sticky pads made with them, would adhere to paper too strongly to be useful as note sheets that are easily removable from the papers to which they are attached, without harm.

To this the Examiner responds that "since chemistry dictates the properties of the P(A) and P(B) blocks, it necessarily requires a continuous matrix formed of P(A),

because it is the block providing required adhesiveness for use", and that "a continuous matrix formed of P(B), which is non-adhesive, would have rendered the composition useless as a pressure-sensitive adhesive."

There is, however, absolutely nothing in the reference that teaches or suggests that P(B) is non-adhesive, nothing in the reference teaches or suggests a continuous matrix of P(A) and nothing in the reference teaches or suggests that the two blocks should be engineered to be incompatible with each other such that a dispersion of one within the other is formed.

Where, for example, can there be found any teaching in the JP reference that a block copolymer have two blocks which are immiscible with each other? If one is attempting to construct an adhesive which is "excellent in durability, tackiness and cohesive power" such as is the objective of the JP reference (see Abstract of JP 10-025460), the last thing one would think of is to construct the polymer of two different polymeric blocks that were immiscible with each other.

The Examiner has not pointed to a single passage in the JP reference that even arguably teaches a block copolymer constructed of polymer blocks that are immiscible! Instead, the Examiner "deems" Applicants' glass transition temperature, immiscibility of the polymer blocks to be "inherent properties of the same chemistry".

However, as indicated above, the Examiner has not shown anything in the JP reference that would lead those skilled in the art to construct a polymer having

polymeric blocks that were immiscible with each other for an adhesive. It is respectfully submitted that such a concept, even if anyone ever thought of it, would be completely inconsistent with the teachings of the JP reference.

Accordingly, the JP reference cannot fairly be seen as anticipating Applicants' claims, and the rejection of claims 1, 2 and 8 under 35 U.S.C. 102(b) as anticipated by or obvious over JP10-025460 machine translation should now be withdrawn.

Claims 4, 5, 6 and 9-15 stand rejected under 35 U.S.C. 103(a) as obvious over JP 10-025460 [machine translation].

The differences between Applicants' pressure sensitive adhesive article and anything that can be found in the JP reference are discussed above. For claims 4, 5 and 10 the Examiner contends that the use of release layers and adhesion promoting layers are common and well known, and that it would be obvious to incorporate such layers in adhesive sheets formed from the adhesives of the JP reference. Of course, no release layers or adhesion promoting layers could ever overcome the differences between Applicants pressure-sensitive article and anything that can be found in the JP reference, as discussed above. Simply incorporating such layers into the adhesives of the JP reference could never lead to Applicants' novel pressure-sensitive adhesive articles.

For claims 6 and 12-15, the Examiner contends that providing a plurality of adhesive sheets in the form of a pad of conveniently predetermined size is common and

well known. The Examiner has not provided any evidence whatsoever to support this contention, however. Moreover, no plurality of adhesive sheets in the form of a pad could possibly overcome the differences discussed above between Applicants' novel pressure-sensitive adhesive article and anything that could be derived from the JP reference. Applicants' claims cannot therefore be seen as obvious over the JP reference and the so-called admission of Applicants.

For claim 9 the Examiner contends that "workable refractive indices are 'deemed' to be either anticipated, or obviously provided by practicing the invention of prior art for the same end use". As pointed out above, noting in the reference teaches or suggests either Applicants' novel adhesive or any other adhesive for use in the so-called "sticky pads". Further the Examiner's contention that "workable refractive indices are 'deemed' to be either anticipated, or obviously provided by practicing the invention of prior art for the same end use" makes no sense as the "end use" of the adhesive tapes of the reference are different than the end use of those of the present application, and nothing in the reference has anything to do with orientation or refractive indices of the copolymers disclosed therein.

For claim 11 the Examiner contends that selection of a color for the paper support is obvious for the same end uses. Once again, the end uses are not the same, and claim 11 depends from claim 8 which depends from claim 1, and as discussed above, nothing that the Examiner has pointed to in the reference would anticipate the pressure-sensitive adhesive article of claim 1 or render it obvious.

The rejection of claims 4, 5, 6 and 9 -15 under 35 U.S.C. 103(a) as obvious over JP 10-025460 [machine translation] should therefore now be withdrawn.

In view of the present amendments and remarks it is believed that claims 1-15 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested and the allowance thereof is courteously solicited.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicant requests that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,
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